

### REMARKS

This Amendment is filed in response to the Official Action mailed April 18, 2007. In this Amendment, claims 27, 31, 56, 57, 62 and 68 amended and claims 72-77 are added. Following entry of this amendment, claims 27-35, 56-59, 61, 62 and 64-77 shall be pending.

In the Office Action, claims 27-35, 56-59, 61, 62 and 64-71 have been rejected based on prior art grounds. For the reasons set forth below, these rejections are hereby traversed.

#### **I. REJECTIONS UNDER 35 U.S.C. SECTIONS 102(B) AND 103(A)**

Claims 27-35, 56-59, 61, 62 and 64-71 are variously rejected under both 35 U.S.C. Section 102(b) on grounds of anticipation and 35 U.S.C. Section 103(a) on grounds of obviousness. The anticipation rejections are based on the article entitled "*A Combination of Stainless Steel Coil and Compressed Ivalon.....*" by Zollikofer, et al. ("*Zollikofer*"). The obviousness rejections are based on *Zollikofer* in combination with one or more of the following references: U.S. Patent No. 5,382,259 to Phelps et al.; U.S. Patent No. 5,350,397 to Palermo; U.S. Patent No. 6,015,424 to Rosenbluth et al. For at least the reasons set forth below, it is submitted that these prior art rejections should be withdrawn and the pending claims allowed.

The primary reference in all of the rejections is *Zollikofer* and in asserting *Zollikofer*, the Examiner takes the position that Ivalon, or more particularly, the polyvinyl alcohol (PVA) used in Ivalon, is a hydrophilic polymer that expands volumetrically at a controlled rate in an aqueous environment or that exhibits a delayed volumetric expansion as recited in the pending claims. Applicants disagree with this position.

There is nothing in the *Zollikofer* reference that indicates the PVA used in the Ivalon is anything other than a standard, off-the-shelf formulation of PVA. That is, there is nothing in *Zollikofer* that shows the PVA used in its Ivalon has any sort of mechanism to control its expansion in an aqueous environment. As such, any expansion of the

PVA in *Zollikofer* is merely a result of a nominal hydrophilic characteristic inherent in the PVA, not from an express controlling component incorporated into the PVA. This contrasts dramatically from the present invention.

In the present invention, the formulation of the hydrophilic polymer includes an added component that governs the volumetric expansion in an aqueous solution. For example, in one embodiment, ethylenically unsaturated monomers with ionizable functional groups (e.g., amines, carboxylic acids) are incorporated into the crosslinked network of the polymer. The hydrophilic polymer is then incubated in a fashion so as to either protonate or deprotonate the functional groups (depending on the nature of the functional groups). The expansion of the resulting hydrophilic polymer will then be controlled according to the deprotonation or protonation (as the case may be) of the functional groups when exposed to an aqueous solution during use.

As a result, expansion of the hydrophilic polymer does not occur merely as a result of its inherent hydrophilic nature; its expansion is governed by the deprotonation or protonation (again, as the case may be) of the functional groups of the ethylenically unsaturated monomers that have been introduced into the crosslinked network of the hydrophilic polymer. This is discussed at some length in the present application. See, e.g., paragraphs [0106] through [0107].

In view of this fact, it becomes clear that *Zollikofer* simply cannot be properly relied to reject the claims. *Zollikofer*, at a minimum, simply does not show a PVA having a component that controls its expansion. Furthermore, nor do any of the other references cited by the Examiner make up for this deficiency of *Zollikofer*.

Nonetheless, in an effort to make this distinction between the prior art and the presently claimed invention even more pronounced and to advance the prosecution of this application, the Applicants have amended the claims. Each independent claim now recites that the hydrophilic polymer (claims 27, 31, 56, 62 and 68) or the embolizing element (claim 57) comprises a polymeric structure that incorporates an expansion control component such that said hydrophilic polymer expands volumetrically at a

controlled rate in an aqueous environment (claims 27, 31, 56 and 62) or such that it exhibits a delayed volumetric expansion when exposed to an aqueous environment (claims 57 and 68). For the reasons stated above, these claims now even more directly recite a component that controls expansion.

In view of at least the foregoing, it is thus submitted that the prior art rejections cannot be properly maintained. Accordingly, it is respectfully requested that the rejections be withdrawn and an indication of allowability issued forthwith.

## **II. NEW CLAIMS**

Dependent claims 72-77 have been newly added in this Amendment. These claims are dependent on independent claims 27, 31, 56, 57, 62 and 68, respectively. These claims specifically recite that the expansion control component is comprised of ionizable functional groups. Support for the subject matter of these newly added claims may be found at least at paragraphs [0033], [0106] and [0107] of the present application. No new matter is added.

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### CONCLUSION

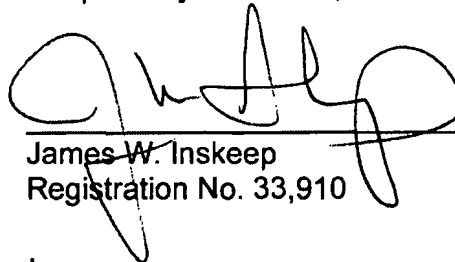
In view of the foregoing, it is submitted that pending claims 27-35, 56-59, 61, 62, 64-77 are now in condition for allowance. Hence an indication of allowability is hereby requested.

If for any reason direct communication with Applicants' attorney would serve to advance prosecution of this case to finality, the Examiner is cordially urged to call the undersigned attorney at the below listed telephone number.

The Commissioner is authorized to charge any additional fee which may be required in connection with this Amendment to deposit account No. 50-2809.

Respectfully submitted,

Dated: October 18, 2007



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